Euphrasia Oakesii. The remaining arctic-alpine flora consists of 118 species, all but four of which are also found upon Mt. Washington. In the various tabular presentations of the affinities of this alpine flora, attention is directed to the ecological as well as the floristic similarity of mountains, coast, bog, and arctic habitats, and various arctic and alpine floristic areas are compared with Mt. Ktaadn. From the large number of common species (56 per cent), arctic Europe is considered to have been the center of distribution of the Ktaadn alpine flora, while its glacial migration seems to have been by the Greenland-Laborador route. Over 75 per cent of this flora is of arctic affinity.—GEO. D. FULLER.

Diffusion stream in plant organs.—RYWOSCH[43] continues his work on the movement of food materials in plant organs. The movements of course obey the laws of diffusion, a given substance moving in the direction of its lowest concentration. The thing of interest in his work is the discovery of various means by which the gradient is maintained. Two illustrations will show the nature of the results. If the cuticle is removed from any side of a starch-free pine needle and the needle placed in a 9 per cent sugar solution, the first deposit of starch is not on the side of the removed cuticle, where of course the sugar is most concentrated, but in the cells on the distal side. The entrance on one side through irritability leads to the more complete condensation of the sugar on the opposite side, thus maintaining a falling gradient and a continual diffusion stream of the sugar toward the distal side. In the cotyledons of the pea, also, he finds that the sugar is more completely condensed as the vascular bundle is approached, thus maintaining a falling gradient and continuous sugar diffusion toward the bundle.—WM. CROCKER.

Chromatin bodies.—Miss DIGBY describes[44] a peculiar phenomenon of a constant extension of chromatin bodies during the presynaptic and synaptic stage of the first nuclear division of the pollen mother cells of *Galtonia candicans*. According to her observations, the chromatin bodies may originate as portions of the nuclear network, or of the synaptic knots, or as nucleolar buds. They are composed of linin in which chromatin is imbedded, or of nucleolar material. Those bodies that come from the chromatic portion of the nucleus retain their connection with the nucleus, by means of a fine thread, until their disintegration. The bodies that pass from the nucleolus into the surrounding cytoplasm penetrate the cell wall and enter the neighboring cell. The chromatic bodies which originate as buds from the nucleolus at first take an acid stain, but as they pass into the cytoplasm they become increasingly chromatic. It is not known whether the bodies as formed become secondarily attached to the nucleus. Regarding the significance of this phenomenon, no interpretation is given by the author.—SHIGÉO YAMANOUCHI.

[43] RYWOSCH, S., Ueber Stoffwanderung und Diffusionströme in Pflanzenorganen. Zeit. Bot. **1**:571–591. *figs. 4.* 1909.

[44] DIGBY, L., Observations on chromatin bodies and their relation to the nucleolus in *Galtonia candicans* Decsne. Annals of Botany **23**:491–502. *pls. 33, 34.* 1909.